IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

plication of:

Y. Tian et al.

Examiner:

Thompson, Camie S.

Application No.:

10/823,288

TC/Art Unit:

1774

Title: Methods and Devices Using High Efficiency Alkaline Earth Metal Thiogallate-Based

Confirmation No.:

4541

Phosphors

Filed:

April 13, 2004

Attorney Docket No.:

SAR-14916A (18703-492)

Customer No.:

58882

Date:

October 20, 2006

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed PTO/SB/08 form. Copies of the U.S. patents and publications are not provided.

It is respectfully requested that the PTO/SB/08 form be initialed and returned, indicating that the cited documents have been considered.

Applicants' undersigned attorney may be reached by telephone at (973) 597-2500. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

LOWENSTEIN SANDLER P.C.

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Docket Administrator LOWENSTEIN SANDLER P.C. 65 Livingston Avenue Roseland, New Jersey 07068-1791

Approved for use through 07/31/2006. OMB 0651-0031

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 4

Complete if Known			
Application Number	10/823,288		
Filing Date	April 13, 2004		
First Named Inventor	Yongchi Tian		
Art Unit	1774		
Examiner Name	Thompson, Camie S.		
Attorney Docket Number	18703-492		

			U.S.PATENT DOC	CUMENTS	
Examiner Initials*	Cite No.1	Document Number Number-Kind Code ^{2 (# known})	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	US-2003/222268	Yocom et al.	12/4/2003	
	2	US-2003/227007	Ezuhara et al.	12/11/2003	
`	3	US-2003/228412	Chen, H.	12/11/2003	
	4	US-2004/116033	Ouderkirk et al.	6/17/2004	
	5	2004/135504	Tamaki et al.	7/15/2004	
	6	2004/145288	Ouderkirk et al.	7/29/2004	
	7	2004/145289	Ouderkirk et al.	7/29/2004	
	8	2004/145312	Ouderkirk et al.	7/29/2004	
	9	2004/145895	Ouderkirk et al.	7/29/2004	
	10	2004/145913	Ouderkirk et al.	7/29/2004	
	11	2004/150991	Ouderkirk et al.	8/5/2004	
	12	2004/15990	Ouderkirk et al.	8/19/2004	
	13	2005/205845	Delsing et al.	9/22/2005	
	14	2005/211992	Nomura et al.	9/29/2005	
	15	2005/218780	Chen	10/6/2005	
	16	2005/218781	Chen	10/6/2005	
	17	2005/224828	Oon et al.	10/13/2005	
	18	2005/230689	Setlur et al.	10/20/2005	

	FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ³ Number ⁴ Kind Code ⁵ (<i>if known</i>)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T⁵		
	19	GB 864,343	Wells	4/6/1961				
[20	GB 1,087,655	Robin <i>et al.</i>	4/14/1965				
	21	GB 1,414,381	King <i>et al.</i>	11/19/1975				
	22	WO2006/001297 [English Abstract Only]	Yamaguchi	1/5/2006				
[-	23	WO2006/028104 [English Abstract Only]	Kuze <i>et al</i> .	3/16/2006				

Examiner	Date	
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		Сотр	lete if Known
Substitute for form 1449	BAPTO	Application Number	10/823,288
INICODMAT	ION DISCLOSURE	Filing Date	April 13, 2004
		First Named Inventor	Yongchi Tian
STATEMEN	NT BY APPLICANT	Art Unit	1774
(Use as ma	any sheets as necessary)	Examiner Name	Thompson, Camie S.
Sheet 2	of 4	Attorney Docket Number	18703-492

			U.S.PATENT D	OCUMENTS	
Examiner	Cite	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or	Pages, Columns, Lines, Where
Initials*	No. ¹	Number-Kind Code ^{2 (if known})	MIM-DD-1111	Applicant of Cited Document	Relevant Passages or Relevant Figures Appear
	24	2005/239227	Aanegola et al.	10/27/2005	
	25	2006/012287	Tian et al.	1/19/2006	
	26	2006/022582	Radkov	2/2/2006	
	27	2006/027781	Dong et al.	2/9/2006	
	28	2006/027785	Wang et al.	2/9/2006	
	29	2006/027786	Dong et al.	2/9/2006	
	30	2006/028122	Wang et al.	2/9/2006	
	31	2006/033081	Hintzen et al.	2/16/2006	
	32	2006/038477	Tamaki et al.	2/23/2006	
	33	2006/049414	Chandran et al.	3/9/2006	
	34	2006/061252	Sohn et al.	3/23/2006	
	35	2006/071589	Radkov	4/6/2006	
	36	2006/097245	Aanegola et al.	5/11/2006	
	37	2006/145123	Li et al.	7/6/2006	
	38	2006/181192	Radkov et al.	8/17/2006	
	39				

	FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Foreign Patent Document Country Code ³ Number ⁴ Kind Code ⁵ (<i>if known</i>)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶			
	40								
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			-	Comp	lete if Known
Sub	stitute for form 1449B/PTO			Application Number	10/823,288
IN	IFORMATION DISC	CLO	OSURE	Filing Date	April 13, 2004
S	STATEMENT BY APPLICANT			First Named Inventor	Yongchi Tian
	(Use as many sheets as neo	essa	·v)	Art Unit	1774
	,			Examiner Name	Thompson, Camie S.
Sheet	3	of	4	Attorney Docket Number	18703-492

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T²
	45	AKELLA, A. and D. A. Keszler, "Sr2LiSiO4F: Synthesis, Structure, and Eu2+ Luminescence," Chem. Mater. 7(7):1299-302 (1995).	
	46	BANDO, K., et al., "Development and Application of High-Brightness White LEDs," Tech Digest, Phosphor Res. Soc., 264th Meeting, 5-14 (November 29, 1996). [In Japanese with English Summary]	
	47	BURRUS, H. L. et al., "Fluorescence of Eu2+-Activated Alkaline Earth Halosilicates," J. Luminescence 3: 467-76 (1971).	
	48	CZAYA, V. R. and G. Bissert, "Die Kristallstruktur von Tricalciummonosilikatdichlorid (Ca2SiO4·CaCl2)," Acta Cryst. B27:747-53 (1971). [In German with English Abstract]	
	49	GARCIA, A. et al., "Ba5SiO4Cl6:Eu, A New Blue-Emitting Photoluminescent Material with High Quenching Temperature," J. Electrochem. Soc.: SOLID-STATE SCIENCE AND TECHNOLOGY 126(10):1734-36 (October 1979).	
	50	GOLOVASTIKOV, N. I. And V. F. Kazak, "The Crystal Structure of Calcium Chlorosilicate Ca2SiO3Cl2," Sov. Phys. Crystallogr. 22(5):549-51 (September-October 1977).	
	51	HERMONEIT, B. et al., "Single Crystal Growth and Some Properties of the New Compound Ca3Si2O7·1/3CaCl2," J. Cryst. Growth 52:660-62 (1981).	
	52	LIU, J. et al., "Eu2+-Doped High-Temperature Phase Ca3SiO4Cl2: A Yellowish Orange Phosphor for White- Emitting Diodes," J. Electrochem. Soc., 152(11): G880-84 (2005).	
	53	NAKAMURA S., et al., "Superbright Green InGaN Single-Quantum-Well-Structure Light-Emitting Diodes," Jpn. J. Appl. Phys. (Letters) 34 (Pt. 2, No. 10B):L1332-35 (October 15, 1995).	
	54	PETERS, T. E. and J. A. Baglio. "Luminescence and structural properties of thiogallate phosphors Ce3+ and Eu2 +-activated phosphors. Part I." J. Electrochem. Soc. 19(2):230-36 (1972).	

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number. Substitute for form 1449B/PTO	Application Number	10/823,288
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APPLICANT	First Named Inventor	Yongchi Tian
(Use as many sheets as necessary)	Art Unit	1774
	Examiner Name	Thompson, Camie S.
Shee 4 of 4	Attorney Docket Number	18703-492

Cite	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item		
ner Ste No.1 Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the in (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		m T ²	
55	PETERS, T. E. "Luminescent properties of thiogallate phosphors: II. Ce3 +-activated phosphors for flying spot applications," J. Electrochem. Soc. 119(12):1720-23 (1972).		
56	SUN, J. et al., "Study on Luminescence Properties of Eu2+ in (Sr, Ca)4Si3O8Cl4 Host Lattice," Guang Pu Xue Yu Guang Pu Fen Xi, 25(11):1760-63 (November 2005). [In Chinese with English Abstract]		
57	 WANMAKER, W. L. and J. G. Verriet, "Luminescence of Phosphors with Ca3SiO4Cl2 as the Host Lattice," Philips Res. Repts. 28:80-83 (1973). WINKLER, A. et al., "On Chloride Silicates of Calcium, Strontium, and Barium," Z. Anorg. Allg. Chem. 504:89-94 (1983). [In German; German & English Abstracts Only] 		
58			
59	WINKLER, A. et al., "Two New Barium Bromide Silicates and the Molecular Constitution of their Silicate Anions," Z. Anorg. Allg. Chem. 542:131-36 (1986). [In German; German & English Abstracts Only]		
60	YEN, W. M. and M. J. Weber, Inorganic Phosphors-Composition, Preparation and Optical Properties, CRC Press: Boca Raton, 2004, pp.81-85.		
ZHANG, X. and X. Liu, "Luminescence Properties and Energy Transfer of Eu2+ Doped Ca8Mg(SiO4)4C Phosphors," J. Electrochem. Soc. 139(2):622-25 (February 1992).			
62			
63			
64			
	56 57 58 59 60 61 62	PETERS, T. E. "Luminescent properties of thiogallate phosphors: II. Ce3 +-activated phosphors for flying spot applications," J. Electrochem. Soc. 119(12):1720-23 (1972). SUN, J. et al., "Study on Luminescence Properties of Eu2+ in (Sr, Ca)4Si3O8Cl4 Host Lattice," Guang Pu Xue Yu Guang Pu Fen Xi, 25(11):1760-63 (November 2005). [In Chinese with English Abstract] WANMAKER, W. L. and J. G. Verriet, "Luminescence of Phosphors with Ca3SiO4Cl2 as the Host Lattice," Philips Res. Repts. 28:80-83 (1973). WINKLER, A. et al., "On Chloride Silicates of Calcium, Strontium, and Barium," Z. Anorg. Allg. Chem. 504:89-94 (1983). [In German; German & English Abstracts Only] WINKLER, A. et al., "Two New Barium Bromide Silicates and the Molecular Constitution of their Silicate Anions," Z. Anorg. Allg. Chem. 542:131-36 (1986). [In German; German & English Abstracts Only] YEN, W. M. and M. J. Weber, Inorganic Phosphors-Composition, Preparation and Optical Properties, CRC Press: Boca Raton, 2004, pp.81-85. ZHANG, X. and X. Liu, "Luminescence Properties and Energy Transfer of Eu2+ Doped Ca8Mg(SiO4)4Cl2 Phosphors," J. Electrochem. Soc. 139(2):622-25 (February 1992).	

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